

Title: HEASARC – The High Energy Astrophysics Science Archive Research Center

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Abstract: The High Energy Astrophysics Science Archive Research Center (HEASARC) is NASA's archive for high-energy astrophysics and cosmic microwave background (CMB) data, supporting the broad science goals of NASA's Physics of the Cosmos theme. It provides vital scientific infrastructure to the community by standardizing science data formats and analysis programs, providing open access to NASA resources, and implementing powerful archive interfaces. Over the next five years the HEASARC will ingest observations from up to 12 operating missions, while serving data from these and over 30 archival missions to the community. The HEASARC archive presently contains over 37 TB of data, and will contain over 60 TB by the end of 2014. The HEASARC continues to secure major cost savings for NASA missions, providing a reusable mission-independent framework for reducing, analyzing, and archiving data. This approach was recognized in the NRC Portals to the Universe report (2007) as one of the HEASARC's great strengths. This poster describes the past and current activities of the HEASARC and our anticipated developments in coming years. These include preparations to support upcoming high energy missions (NuSTAR, Astro-H, GEMS) and ground-based and sub-orbital CMB experiments, as well as continued support of missions currently operating (Chandra, Fermi, RXTE, Suzaku, Swift, XMM-Newton and INTEGRAL). In 2012 the HEASARC (which now includes LAMBDA) will support the final nine-year WMAP data release. The HEASARC is also upgrading its archive querying and retrieval software - with the new Xamin system in early release - and building on opportunities afforded by the growth of the Virtual Observatory and recent developments in virtual environments and cloud computing.